tain knowledge of the physical world about them; and, second, that they may gain through this knowledge the power to control the forces of nature for their own benefit, and for the benefit of others. In other words, we wish them to acquire knowledge which they will use in every-day life."

This work with other recent publications from a similar point of view represents a reaction against the prevailing formal text-books and formal treatment for beginners in the study of science. Those who consider fundamental things in physics to be the laws and generalization of the science will, perhaps, feel that the traditional logical development is very much neglected at some points. On the other hand, there is a growing demand among experienced teachers and critics of educational efficiency for a readjustment of text-book treatment. Where the strictly logical conflicts with what is considered profitable educational procedure the tendency is to defer logical organization of subject-matter till later. Experienced teachers, critics of education and the general public are demanding less drill work in abstraction and more practical work dealing with experiences and appliances such as one encounters in the world of reality. Lynde's book is a valuable contribution to the problem of teaching physics in a more practical way.

The first two chapters deal with a multitude of familiar mechanical contrivances, with discussions of the lever principle and other simple machines. This reminds one of the popular old text-books on natural philosophy of fifty or seventy-five years ago, and it is an altogether desirable revival. The chapter on mechanics of liquids is introduced with discussion of a city water supply, water supply for country homes, wells, etc. Following a chapter dealing with atmospheric pressure a variety of air appliances are discussed, including pumps, the pneumatic tank system of water supply for homes, the hydraulic ram, the air-pump, types of vacuum cleaners, the fire extinguisher, the siphon, the trap, the gas meter, etc. In the chapters on heat a similar list of important familiar appliances are to be found. As a rule the author presents a descriptive treatment of a series of practical physical situations in order to form a basis for discussion of the principles involved.

The chapters on electricity, light and sound follow more closely the customary treatment and contain less of the distinctive feature of the first half of the book. For the sake of consistency in the general plan there is much material of a practical and illustrative nature that should have been incorporated in these latter chapters. It is somewhat disappointing to find a commendable book with so many amateurish free-hand drawings.

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## *THE FORSYTH DENTAL INFIRMARY FOR CHILDREN*

This Boston institution, pioneer among charities for the adequate care of the mouths and throats of the children, poor or rich, of a large city, was dedicated formally by the Governor and others on Tuesday, November 24, and began its actual work the first of December. It is in the form of a splendid memorial erected by Thomas Alexander Forsyth and John Hamilton Forsyth to their brothers, James Bennett Forsyth and George Henry Forsyth, of whom, however, at present only the first-named is living. The amount already provided for this important work, it is understood, in the building and in endowment, is well along towards three millions of dollars.

Beautiful bas-relief bronze doors ("The Mother, giver of life and love" and "The Commonwealth, giver of health and learning") by Roger Noble Burnham, a bronze bust of James Forsyth by Bela Pratt and one of George Forsyth by Mr. Burnham, and charming Dutch and American tiling of elaborate design (A. H. Hepburn), are perhaps chief among the internal works of art of the beautiful white marble building, situated on The Fenway, north of the Museum of Fine Arts, although bronze doors ("Uncle Remus," "Bre'r Rabbit," "Alice in Wonderland," etc.), also ornament the entrance-way for the chil-

dren-patients from Forsyth Park on the north. The land on the south side of the hospital is also to be parked by the city.

The therapeutic and surgical outfit of this perfectly fire-proof infirmary may not be adequately described in this place. Suffice it that its present means for caring for six hundred patients a day are the most timely and complete that expert technical thought and information, served with unlimited funds, could provide, so that several features wholly new have their place in this institution. The sixty-eight (at present) dental chairs, for example, in the great operating room, are the most elaborate ever constructed, for each has running water warmed to suit the requirements of a tooth-cavity, compressed air, air-suction, electricity, an electric signal system, etc., while many of them are equipped with the most recent of anesthesia-mechanisms; all are finished throughout in white-enameled metal, in line with modern ideas toward asepsis. The dental instruments which have been used for a patient are enclosed in a flat covered metallic tray and sent to the sterilizing-room, where each night they are in tiers subjected to dry heat at 300° F. in gas, thermostat-controlled ovens. This careful system of asepsis will require the daily use of a thousand sets of dental instruments when the number of chairs has been increased to the capacity of the Infirmary.

The arrangements for amusing the children while awaiting their unpleasant experiences in the dental chairs or in the nose-and-throat department (which is very elaborate and complete) are a noteworthy part of this institution quite in line with modern medical principles of good humor and the related sthenic index. The little patients (none over sixteen), have a large room, known as the "Children's Room," close to their special entrance which is quite after their own youthful hearts. Miss Tower, a skilled kindergartner, here makes it her sole business to see to it that the children forget for the time why they are come hither and the approaching disagreeable duty of having one's teeth put in order or one's throat "treated." Here, for example, is an alluring aquarium nine feet long and three feet square, two thirds of which is for graceful plants and a few score of our more interesting native fish in large variety, while one third is a reptile-tank so built and arranged as to at once display and make comfortable all manner of American amphibious little beasts. Here, too, is a library of story-books, games, etc., and later on there will be other things as actual experience shows their need. Around the walls of this children's room are extremely elaborate friezes of Delft tiling illustrating some familiar fairy stories—Oliver Wendell Holmes's "Dorchester Giant," "Rip Van Winkle," Hawthorne's "Golden Fleece," and Mrs. Prescott Peabody's "Pied Piper."

Connected with the Children's Room is a metallic cloakroom so constructed that its entire contents can be fumigated and thus sterilized at night, electric pumps forcing in and removing the respective atmospheres at the instigation, respectively, of two push-buttons. The plumbing everywhere is extensive and to some extent original and unique. There is a small ward for the girls who may chance to need its care and a like one for the boys; and there is of course a small but adequate amphitheater for the professional study of oral or of nose- or throat-operations; and a large research laboratory; there is much museum-space; a library; and a lecture-room that will seat about three hundred persons.

In addition to a large number of routine operating dentists (some of whom work full-time and others half-time or third-time) the following at present constitute the staff of the Forsyth Infirmary: Director, Dr. Harold De Witt Cross; assistant to the director, William Z. Hill; nose and throat department, William E. Chenery; consulting otologist, Edgar M. Holmes; extracting staff, Edward V. Bulger and eleven others; X-ray department, Arial W. George, consultant; E. Albert Kinley, Jr.; consulting surgeons, Fred B. Lund, Harry H. Germain, Hugh Cabot, and Hugh Williams; consulting physiologist, George V. N. Dearborn; oral surgeons, Albert Midgley, Harry B. Shuman, Leroy M. S. Miner and B. H. Strout; orthodontia, Frank A. Delabarre,

head of department; consulting orthodontists, George C. Ainsworth, Alfred Rogers and Lawrence W. Baker; assistants, Arthur L. Morse, Harry W. Perkins, Ernest W. Gates and Norman G. Reoch.

The trustees of the institution, besides Thomas Alexander Forsyth, Director Cross and John Francis Dowsley, the president of the State Board of Registration in Dentistry, are Edwin Hamlin, Chester Bradley Humphrey, Edward Walter Branigan (deceased), Harold Williams, Timothy Leary, Gordon Robert McKay, Erwin Arthur Johnson and Nelson Curtis. Theirs is a good work well begun. G. V. N. D.

## *FIRST EXPLORATION OF AN ALASKAN GLACIER*

The first exploration of the Harvard Glacier and the continuation of the observations of previous scientific expeditions in regard to the great glaciers of Prince William Sound, Alaska, have resulted from a field expedition recently completed by Miss Dora Keen, of Philadelphia, with the aid of three men.

Leaving Valdez, Alaska, on August 15, 1914, in a small launch, the party was set down next day near the head of College Fjord, with six weeks' outfit and two small boats, to one of which a detachable motor was affixed. The *object* of the expedition was twofold: (1) *to explore the sources of the Harvard Glacier* in the unmapped section of the Chugach Mountains. If a pass were found, it was planned to cross the divide and return to tidewater down the Matanuska Glacier and the Valley trail of the same name—a traverse of some 50 miles of snow and ice, almost entirely without timber, and a succeeding 100 miles of a hard trail chiefly through uninhabited country. (2) To continue the *observations of the changes taking place in the glaciers of College Fjord and Harriman Fjord,* by means of photographs taken from lettered stations variously occupied since 1899 by the Harriman Expedition, U. S. Geological Survey, and the National Geographic Society's Expeditions. Both of these objects were accomplished, in spite of almost constant rain or snow, during an expedition that lasted six and a half weeks actually in the field.

The expedition was a private one, but undertaken at the suggestion and under the guidance of the junior leader of the National Geographic Society's Expeditions, Professor Lawrence Martin, of the University of Wisconsin. *The party* consisted of Miss Keen, leader, whose previous experience had been on the glaciers of the Alps and in two extended expeditions in Alaska, entirely on the glaciers of the Wrangell Mountains and resulting in the first ascent of Mt. Blackburn, 16,140 ft.; Mr. G. W. Handy, of McCarthy, Alaska, who had been responsible for the success of her second attempt on Mt. Blackburn; G. A. Rabehl, also an old timer in Alaska, and Mr. H. L. Tucker, of Boston, topographer, whose previous experience had been on the 1910 Parker-Browne Expedition to Mt. McKinley and with the Yale Peruvian Expedition on Coropuna, 21,000 feet.

### *Exploration of the Harvard Glacier*

The Harvard Glacier has a tidal ice cliff a mile and a quarter wide and 350 ft. high, from which ice breaks constantly in summer, causing danger to small boats. Still, a landing was effected in safety on one side and supplies gradually relayed to a point seven miles from the face, where the ice was at last smooth enough to make travel on the glacier itself possible. Over another nine miles of crevasses the party succeeded in reaching the sources of the glacier, to a point where further progress was impossible, even on snowshoes, because of the shattered condition of the glaciers flowing from the steep divide. No pass being found, the return was made from this point, by the same route. All the way, food, tents, etc., and for most of the distance fuel, had to be relayed on the backs of the party, and all the going was hard, so that three and a half weeks were spent in reaching an altitude of 6,100 feet, sixteen miles from the face of the ice.

Danger from snow slides also prevented any high ascent, but data of value were secured